



GEOMIX[®]

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Process

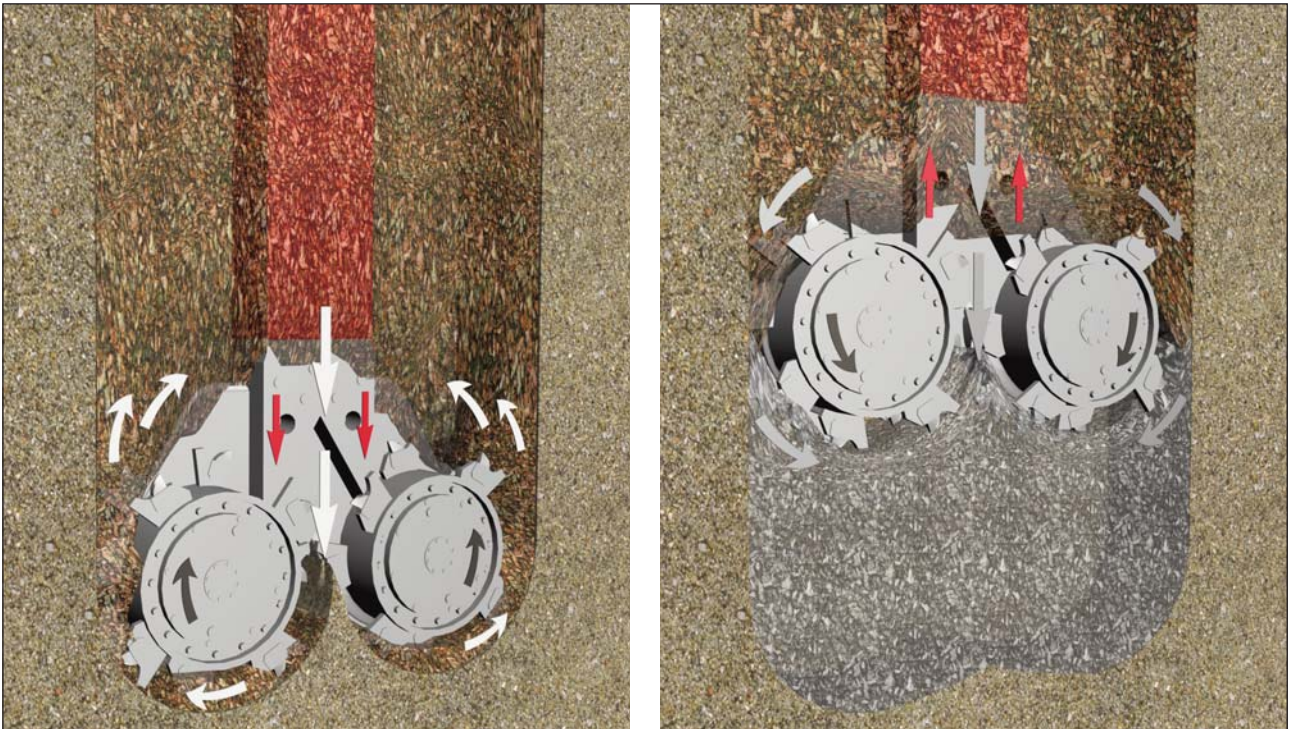
BUILD ON US



SOLETANCHE BACHY

GEOTECHNICAL AND CIVIL ENGINEERING CONTRACTORS

The Geomix® process is used to make foundations, cut-off walls and sub-water table retaining walls without using concrete and with next to no spoil



The soil is destructured during excavation. The spoil is moved towards the top of the cutting head. As it is fed back, the movement of the machine displaces the mix from the top to the bottom of the machine. A binding agent is then injected and mixed in.

Geomix® is a soil mixing process which consists of using the in-situ soil as a construction material. The soil is destructured during excavation and mixed with cement grout. The resulting mix constitutes the Geomix® wall.

AN ECONOMICAL WALL THAT IS MORE ENVIRONMENTALLY FRIENDLY

This solution offers numerous advantages. It avoids cumbersome handling operations and removal of spoil as well as reducing the consumption of natural resources: little or no spoil, and little or no added concrete or external materials (only cement).

The technique does not generally require the prior construction of guide walls. Like traditional diaphragm walls, the Geomix® wall consists of juxtaposed primary and secondary panels.



The rotating drums carry out the boring and mixing of the soil and cement.



A PRACTICAL HYBRID PIECE OF EQUIPMENT: THE CSM

This process is the result of combining soil mixing techniques and hydromill cutter technology, thereby merging the advantages offered by each of them: the robustness and proven track record of the hydrofraise cutter with the ingeniousness of soil mixing. For this purpose a new tool has been conceived: the Cutter Soil Mixing (CSM). It consists of hydraulic motors upon which two pairs of rotating drums are mounted. These carry out the boring and mixing of the soil and the cement. This equipment is compatible with numerous types of base units, which makes it very flexible.

AN ADVANCED SUPERVISION SYSTEM

On a real-time basis, the supervision system simultaneously checks the process's 2 key parameters: the homogeneity of the soil/binding agent mix and the quantity of the binding agent injected into the volume of soil treated. At the same time it enables navigation through the soil in order to ensure that the wall installed is vertical. The onboard computer technology enables the tool to be supervised and steered from a cabin.

MULTIPLE APPLICATION POSSIBILITIES

Solétanche Bachy's accumulated expertise in the field of cement grouts and drilling fluids as well as in drilling diaphragm walls enables formulations to be proposed that are both optimised and specific to each site. If necessary, the Geomix® wall can be reinforced using stanchions lowered into the soil/grout mix. There are many applications for this:

- cut-off walls,
- retaining walls,
- soil improvement,
- stabilisation,
- soil and water table pollution control ...



The soil/cement mix can achieve compression strengths of around 6MPa and permeability values of around 10⁻⁶m/s.

FRANCE - Lewardé
600m of Geomix® cut-off wall



FRANCE - Marseille
Axe Littoral
1,700m² of Geomix® retaining wall



UNITED STATES - Pittsburgh
North Shore Collector
10,000m² of Geomix® retaining wall



SWITZERLAND - Viège
47,000m² of Geomix® cut-off wall



POLAND - Mielec
Stary Bren embankments
2,000m² of Geomix® cut-off wall



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